July/August 1999 $2.50

# MONTANA OUTDOORS

# Our Point of View

CHUCK HANEY

*The duck-bill* is our state dinosaur. The grizzly bear is our state mammal. The cutthroat trout is our state fish. If we had a state rodent, it might well be the prairie dog. The first is extinct, the second is classified as threatened, and the last two are being considered for listing as threatened under federal law.

Are all of Montana's fish and wildlife on the same path as dinosaurs? Hardly. Although many species have declined compared to 100 or 200 years ago, Montana still has the healthiest populations of grizzly bears, lynx, paddlefish, bull trout, cutthroat trout, and many other species in the lower 48 states.

So why are so many species being listed as threatened in Montana? Legal challenges have pushed the U.S. Fish and Wildlife Service into a more aggressive role in listing species, often focusing more on declines in historical distribution across their range rather than whether they are actually threatened with extinction in a particular state. As a result, if a species has declined or become extinct in other states, the health of Montana's population matters little under federal law.

What difference does federal listing make to wildlife conservation in Montana? For species that are truly threatened in Montana, federal protection can change priorities to conserve habitat on federal lands. For the species that are doing well here but are listed due to problems in other states, federal listing may do more harm than good.

When a species is listed under the Endangered Species Act, the federal government takes management out of the hands of the state even though federal agencies usually lack the resources and expertise possessed by the states. Ironically, once a species is listed, it may become harder for a state like Montana to sustain our conservation program because some people expect the federal government to step up, while others react with fear and resentment to federal regulation.

As things stand now, there is no reward under the federal Endangered Species Act for a state that has done a good job. For example, in spite of what we have been doing with the westslope cutthroat trout (see page 8), prairie dog, and associated species (see page 2), federal listing decisions could soon take away the state's authority to conserve these species.

Ensuring the future of all species in Montana will take coordination with other states, private landowners, Indian tribes, and state and federal agencies. I believe it will also require developing an approach based on incentives rather than threats. Ultimately, this will require fundamental change in the federal Endangered Species Act so that state-led restoration programs have a chance to stand the test of time.

Patrick J. Graham
Director
Montana Fish, Wildlife & Parks

RICHARD MOUSEL

*Burrowing owls are declining in many parts of the West (page 2).*


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***Montana Outdoors*** (ISSN 0027-0016), the official publication of Montana Fish, Wildlife & Parks, is published bimonthly (January, March, May, July, September, and November). Contributions (manuscripts or illustrations) are welcome with the understanding that the department or the editor cannot be responsible for loss or damage. All contributions will be published at the discretion of the editor. Subscription rates are $9 for one year, $16 for two years, and $22 for three years. (Please add $3 per year for Canadian subscriptions. All other foreign subscriptions, air mail only, are $25 for one year.) Individual copies and back issues cost $3.50 each (includes postage). Although ***Montana Outdoors*** is copyrighted, permission to reprint articles is available by writing our office or phoning us at 406/444-2474. All correspondence should be addressed ***Montana Outdoors***, Montana Fish, Wildlife & Parks, 930 West Custer Ave., P.O. Box 200701; Helena, MT 59620-0701 or e-mail at mtoutdrs@ixi.net.


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Indexed by States' Periodical Index, 1660 Smithville Road; Havre, MT 59501.

Postmaster: Send address changes to ***Montana Outdoors***, Montana Fish, Wildlife & Parks, 930 West Custer Ave., P.O. Box 200701; Helena, MT 59620-0701. Preferred periodicals postage paid at Helena, MT 59620, and additional mailing offices.


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July/August 1999
Volume 30, Number 4


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# A Prairie Dog Companion

by Marco Restani, Larry Rau, and Dennis Flath

TOM J. ULRICH

Early explores, traders, and travelers marveled at the barking villages of "petit chien" (little dog), and speculated about the symbiotic relationships that might exist among the prairie dog, the rattlesnake, and the curious little long-legged owl with the peculiar bobbing mannerism. The burrowing owl was one of the "wonderments" of the West. Today, that wonderment seems to be vanishing, as burrowing owl populations in many areas of the West appear to be in trouble.

In western North America, the burrowing owl is a ground-dwelling bird of the plains and deserts. Unlike most owls, these diminutive birds are active day and night. They also exhibit the unique habit of nesting underground, using burrows excavated by prairie dogs, ground squirrels, and badgers. Burrowing owls respond to the spatial distribution of these mammals, which often live in colonies, and also organize themselves in loose colonies. As many as 15 pairs may nest in a prairie dog colony, some only 20 feet apart.

Unfortunately, this denizen of the prairie may be in a deep hole, in more ways than one. Birdwatchers and biologists are seeing fewer and fewer owls each year on breeding and wintering grounds, but no one seems to know why. Researchers in prairie Canada report precipitous declines of burrowing owls over the past 10 years; the birds have been extirpated from British Columbia and Manitoba, and reintroduction efforts have not been successful. Declines in neighboring Saskatchewan and Alberta are approaching 15 percent per year! At this rate a healthy owl population could drop to dangerously low levels in only a few years. Canada now designates the species "endangered" and devotes a significant amount of research and management attention to the owl's plight in an effort to arrest the current trend.

TOM J. ULRICH

RICHARD MOUSEL

Burrowing owls eat a variety of items, including insects, other birds, small mammals, and frogs.

The decline of burrowing owls in Canada may be a harbinger of things to come in the U.S., but populations here show much more variability. Some states, such as Idaho, report expanding populations whereas others, like California and North Dakota, report the disappearance of owls from large areas where they once nested. The ubiquity of burrowing owl declines has raised so much concern that wildlife managers and conservationists have convened two international symposia devoted to the species' status, biology, and management within the past eight years.

Because the most significant population declines of burrowing owls are occurring at Montana's borders, it is reasonable to expect that whatever factors are operating in Canada and North Dakota could also be depressing owl populations in Montana. Ecological conditions have a nasty habit of ignoring political boundaries, and a recent analysis of burrowing owl distribution in Montana confirms our suspicion that all is not well in Big Sky Country. Researchers mapping prairie dog towns across the state saw far fewer owls in the late 1990s than in the mid-1980s, which may signal an owl population in the early stages of decline. Unfortunately, the factors responsible for this pattern remain elusive.

Several conditions, acting alone or in concert, are receiving research and management attention. These include habitat loss and degradation, excessive mortality during migration or on wintering grounds, widespread decline of fossorial (burrowing) mammals, and reproductive problems brought on by pesticide use, food shortages, and nest predation. An action plan formulated during the first Burrowing Owl Symposium prioritizes these factors and urges owl researchers to follow its recommendations. Coordination among Canadian, U.S., and Mexican biologists and managers is approaching a level not seen since efforts to recover bald eagles two decades ago.

In Montana, we initiated studies in 1998 to determine the status of burrowing owls near Miles City and Malta—regions where owls nest alongside prairie dogs. Our basic research focuses on three important areas of breeding ecology that may have significant management implications: distribution and abundance, habitat selection, and productivity and survival. Unfortunately, studying populations in decline is difficult because rarely is only one factor at work. Only through long-term research can we identify and then tease apart the cumulative effects of several

CHUCK HANEY

Prairie dogs in eastern Montana are just beginning to rebound from an apparent outbreak of plague, a bacterial disease transmitted by fleas.

conditions that might be suppressing owl populations.

We survey our study areas for burrowing owls in early May and June. Owls nesting in large prairie dog towns are somewhat secretive and can be difficult to count during the early breeding season. We take advantage of the owls' natural territorial behavior and increase probability of detection by broadcasting tape-recorded owl hoots from a distance. A territorial male will respond to the "trespasser" by hooting or making himself visible. We also check prairie dog towns for nesting owls throughout the summer to improve our early season estimate of nesting pairs. After the young reach two weeks of age, they spend a significant portion of the daylight hours out of their nest burrow, learning to forage for themselves and becoming accustomed to above-ground surroundings. At that time they are easy to spot even if we missed counting their parents during May and June.

Last year we surveyed over 3,000 acres of prairie dog towns scattered across four townships near Miles City. Density of breeding owls was low compared to other areas of western North America where owls nest with prairie dogs. Vacant but apparently suitable habitat suggested that something was not well. We should have counted more owls. By analyzing historic data of owl occupancy from our study area, we found, not unexpectedly, that owls might be responding to long-term fluctuations in the density of prairie dogs. Prairie dogs in eastern Montana are just beginning to rebound from an apparent outbreak of plague, a bacterial disease transmitted by fleas that causes widespread and indiscriminate death in many mammals, including humans.

Plague made its way into North America early this century, being recorded for the first time in 1908 in California. It probably hitchhiked aboard rat stowaways disembarking from seafaring ships at ports in Los Angeles County. Although it is the same disease that killed millions of people in Europe during the Dark Ages, public health awareness and modern medicine have reduced the incidence of plague among humans in the U.S. to a few isolated cases.

Documenting plague in natural settings is very difficult because infected animals die quickly, often in inaccessible burrows. As a result, fresh carcasses are rarely retrieved and available for diagnosis. Plague was first suspected on our study area in 1983, but it took an additional three years before its presence was confirmed in Carter County. However, plague antibodies have been detected in the blood of southeastern Montana coyotes,

JAN L. WASSINK

RICHARD MOUSSEL

Female owls tending their eggs or nestlings are vulnerable to ground predators, especially badgers.

indicating that plague has been present locally and continues to remain active in low levels.

North American mammals, such as prairie dogs, have not evolved with plague and have no natural immunity to the disease. Consequently, plague can turn a healthy prairie dog town into a ghost town within a matter of weeks. In northern New Mexico plague killed more than 99 percent of the prairie dogs in less than two years as it hopscotched from colony to colony. Here in Montana, a presumed plague epizootic significantly reduced prairie dog numbers in the southeastern part of the state in only a few years. Researchers recorded the progression of the disease from town to town along the Powder River. The population crash of prairie dogs posed a significant problem for owls seeking nest burrows.

Burrows that are not regularly maintained by prairie dogs silt in after only a few years. A town devoid of activity will soon become unavailable to nesting owls because they do not dig their own burrows. On our Miles City study area, the owl population decline lagged behind the prairie dog decline by about five years. Density of breeding owls was highest in the late 1970s before plague reached the Miles City area. The owl population plummeted to a low in the early 1990s, a few years after plague was first noticed and right at the time one would expect most burrows to have collapsed or be filled in with soil. Prairie dogs have since rebounded and we have high hopes that burrowing owls will make a comeback, too.

Burrowing owls have the potential to produce a lot of young when conditions are favorable. Clutch size seldom exceeds eight eggs, but may reach 12 eggs, a huge number for such a small bird. Although nesting density on our study area was low last summer, the number of young raised per adult pair was well within the range of healthy populations. It could have been higher, however, and number of young produced is not the only reproductive parameter of interest to managers struggling to stabilize decreasing populations. For example, after leaving the nest and care of their parents, do young owls suffer high mortality? If the number of young produced approaches the maximum possible, say 10 per adult pair, but the vast majority die before reaching sexual maturity, the population will still decline. High mortality

appears to be a problem in some areas where vehicle traffic is high. This occurs most often near urban nesting sites or during migration. We are beginning detailed studies of owlet survival this summer and hope to determine if this factor is limiting long-term population size.

Habitat aside, populations of breeding birds are generally limited by nest predation and food supply. Could these two factors be suppressing owl populations? On our study area, burrowing owls eat a variety of items, including insects, other birds, small mammals, and frogs. It is too early to speculate on the possible effect that food supply has on productivity in Montana, but this avenue of research remains fruitful because researchers in Canada have demonstrated that food supply can limit owl productivity. Owl pairs given supplemental food raised more young than those left to their own devices.

The rate of food delivery to young owls depends on a multitude of factors: prey availability, the foraging skill of attending adults, and time spent hunting. Human activity on prairie dog towns disrupts normal foraging behavior because burrowing owls are active daytime hunters and avoid people. As the amount of food delivered to the brood decreases, competition among nestlings increases. With less food to go around, either fewer nestlings will fledge or they will fledge at lower weight. Heavier nestlings survive much better than smaller nestlings, probably because excess weight, usually in the form of fat, offsets risks associated with starvation.

In Montana, shooting prairie dogs is popular recreation, which could indirectly affect survival of burrowing owl nestlings. Both adult and young owls seek refuge from humans and loud gunshots by retreating into burrows. Obviously, this lowers nestling feeding rates and it takes about an hour or so of peace and quiet before adults reappear. Owls probably cope with brief periods of disruption from humans, just like do they do from any other threat, and return to parenting when all appears safe. By limiting their shooting on individual prairie dog towns to an hour, then moving along to another town, shooters can easily share the vastness of the prairie with burrowing owls.

What about predation? Burrowing owls occasionally fall victim to hawks, but these losses are few and cannot explain widespread declines. However, female owls tending their eggs or nestlings are vulnerable to ground predators, especially badgers. Researchers in Nebraska have shown that badger predation on owls is low when density of prairie dogs is high. Apparently badgers prefer prairie dogs as prey and tend to ignore owls when prairie dogs are abundant. But when prairie dog density is low, the probability of badgers excavating burrows containing owls is increased. Density of prairie dogs in southeastern Montana is currently high and we have yet to record an instance of nest predation by badgers. This situation could change quickly if plague moves into the area again.

The close association between burrowing owls and prairie dogs portends a troubled future. Throughout the Great Plains, prairie dogs have been substantially reduced. In Montana, about 4 percent of the original range remains occupied. Widespread poisoning campaigns, conversion of native prairie to cropland, shooting, and plague all serve to reduce prairie dog numbers. A recent petition to list the prairie dog under the Endangered Species Act highlights the ecological role of this "keystone" species. The prairie dog, like its cousin the beaver, creates habitat for a variety of species. Not only do owls depend on prairie dogs, but so too do black-footed ferrets and mountain plovers.

Conservation of prairie dogs is the first logical step in providing protection to its neighbors. For example, burrowing owl populations in several states seem to be suffering an "indirect effect"—a chain reaction where impacts to one species, such as the prairie dog, cascade through an ecological system to affect other species. However, declines in Canada, which is outside of historic prairie dog range, suggest that other factors also play a role in suppressing owl numbers. The problem is complex and a quick fix seems unlikely.

Prairie dog towns are distributed irregularly across the eastern Montana landscape. Individual towns, which may range in size from 1 to 1,200 acres, are often close to each other and form natural aggregations called complexes, which are usually widely separated. The Custer Creek Complex is one of our study areas. It contains roughly 100 prairie dog towns bounded by two prairie watersheds. By using specialized mapping techniques and geographic analyses, we are trying to determine which spatial arrangement of towns is most attractive to nesting owls. For example, do owls prefer nesting in large towns that are close to each other, or would they rather nest in smaller towns spread out over a large area? Answering these questions has potential implications for management because some complexes, or even individual towns, may be more important for owl persistence than others.

A knowledge of the behavior and movement of plague across landscapes may also be valuable to managers trying to recover prairie dogs and burrowing owls. Recall that plague jumps from town to town, although the mechanism of transport is unknown. Therefore, towns that are spaced apart or that exist in relative isolation might avoid exposure to the disease. These towns could provide important refuges for prairie dogs and burrowing owls during years of a widespread epizootic. By analyzing habitat occupancy at landscape scales and the movements of individual owls, we hope to test this hypothesis.

The burrowing owl, the once-familiar denizen of the plains, could fade into the sunset, like so many other attributes unique to the West. We believe it is important to maintain healthy populations of burrowing owls, and other species, as an integral component of our wildlife heritage. Understanding the mechanisms that affect burrowing owl population dynamics is central to an effective conservation strategy for this singular icon of the western landscape. ■

*Goodrich caught in the falls...half a dozen very fine trout from 16 to 23 inches long, precisely resembling, in form and in the position of the fins, the mountain or speckled trout of the United States, except that the specks of the former are of a deep black, while those of the latter are of a red or gold color. They have long sharp teeth on the palate and tongue, and generally a small dash of red on each side...the flesh is of a pale yellowish-red, or when in good order of a rose-colored red.*

**Thus did Meriwether Lewis** first describe the westslope cutthroat trout on June 13, 1805, at the Great Falls of the Missouri River. Native to Montana, Idaho, Oregon, Washington, and southern British Columbia and Alberta, the westslope cutthroat is one of several subspecies of cutthroat trout (*Oncorhynchus clarki*) that originally inhabited much of western North America. In Montana, the distribution of the westslope cutthroat included the entire portion

LARRY JAVORSKY

of Montana west of the Continental Divide and the upper Missouri River and its tributaries downstream to Fort Benton, as well as the headwaters of the Judith, Milk, and Marias rivers. Another subspecies, the Yellowstone cutthroat trout, is also native to Montana. Originally found in the Yellowstone River basin, the Yellowstone cutthroat has been introduced to many waters outside its historic range, including those once exclusively occupied by westslope cutthroat.

Sadly, the westslope cutthroat has been on a long-term decline in Montana due to overharvest, habitat loss, and introduction of non-native species. It is especially threatened in the Missouri River basin, where it occupies less than 10 percent of its historical range. Overharvest was probably a major impact in the late 1800s and early 1900s—native trout were a staple of early explorers, cavalry troops, and settlers—but catch-and-release restrictions now apply where populations need protection.

The major causes of the westslope's decline have been habitat alteration, competition from

# Very Fine Trout

by Brad Shepard

**Non-native trout**—*primarily brown, rainbow, and brook trout, widely introduced in Montana since the early 1900s—typically outcompete native cutthroat in waters where they occur together.*

introduced species, and genetic problems. Habitat has been degraded by poor land management practices, stream dewatering, construction of dams and diversions, and floodplain development. Non-native trout—primarily brown, rainbow, and brook trout, widely introduced in Montana since the early 1900s—typically outcompete native cutthroat in waters where they occur together. Rainbow trout also interbreed with westslope cutthroat, changing the genetic makeup of succeeding generations—i.e., they are no longer pure westslope cutthroat. While some may argue that this replacement is "natural" and should be tolerated, it would be short-sighted to ignore the plight of a native fish that has survived more than 60,000 years in Montana and has played such an integral role in our human and natural history. To honor the unique stature of this Montana native, the legislature designated the cutthroat trout Montana's "state fish" in 1977.

In 1972, Montana Fish, Wildlife & Parks (FWP) designated the westslope cutthroat as a "species of special concern," and the U.S. Forest Service labeled it a "sensitive species" in 1988. These actions recognize the species' need for special management and its dependence on clean, cold waters for survival. In June of 1998 the U.S. Fish and Wildlife Service (FWS) was petitioned, under the Endangered Species Act, to list the westslope cutthroat as "threatened" throughout its range. The FWS has not yet made a final decision on this petition.

FWP began efforts to conserve the westslope cutthroat long before 1972, however. Both westslope and Yellowstone cutthroat have been raised in Montana's hatchery system since 1908. When the westslope cutthroat brood stock became "domesticated" after many years in the hatchery, FWP biologists worked with the Salmon and Trout Genetics Laboratory at the University of Montana to develop a new wild brood stock to preserve as much genetic diversity as possible. In 1983 more than 3,000 wild westslope cutthroat were taken from four streams and moved to the Murray Springs Hatchery near Eureka; when water conditions proved unsuitable, the 2,200 surviving fish were transported to the Washoe Park Hatchery in Anaconda, where their progeny reside today. The objective is to keep this cutthroat stock as wild as possible, which precludes selection for traits such as fast growth or early spawning. More wild fish will be brought into the hatchery if testing indicates genetic variability has not been preserved.

In 1994 FWP formed a technical committee made up of fisheries professionals from FWP, the Forest Service, BLM, and universities to recommend strategies for conserving westslope cutthroat in Montana. A few years later a steering committee was appointed to develop formal recommendations for conserving the species using biological strategies developed by the technical committee. The steering committee includes representatives from the agriculture, forestry, conservation, and angling communities, as well as federal and state agencies.

The steering committee agreed the overall management goal should be to ensure the long-term, self-sustaining persistence of westslope cutthroat within each of the five major river drainages it historically inhabited in Montana (Clark Fork, Kootenai, Flathead, Missouri, and Saskatchewan), and to maintain the genetic diversity and life history strategies represented by existing populations. The committee developed five objectives to reach this goal:

- Protect all genetically pure populations.
- Protect slightly hybridized populations until basin-wide conservation plans can be developed.
- Ensure long-term persistence throughout the native range.
- Provide technical information, administrative assistance, and financial resources to assure compliance with these objectives.
- Design and implement an effective monitoring program by 2002 to document progress toward the goal.

Several actions have been taken to achieve these objectives (see examples on the following pages). Existing populations are being conserved by protecting and enhancing habitats they now occupy. Barriers have been constructed to prevent upstream movement of non-native fishes, and in some situations non-native species are being removed.

Westslope cutthroat populations also will be restored to some areas they do not now occupy. A combination of wild fish from nearby streams and fish from FWP's Washoe Park Hatchery will be used to "re-found" these new populations. This will help preserve the genetic variability present in existing populations. To help preserve the migratory form of the westslope cutthroat, populations in interconnected habitats will be preserved and restored.

Many anglers are now probably asking, "How will this affect me?" The answer depends to some degree on one's perspective, but there are several points to consider:

- First, FWP has no plans to remove non-native brown and rainbow trout from any of Montana's major rivers where

they now support an important recreational fishery. It is simply not technically feasible to do so, and FWP recognizes the importance of these recreational fisheries.

- Second, where westslope cutthroat now exist, FWP and our partners will work to ensure that these populations persist.
- Third, a true indication of the recovery of a westslope population will be when the population is healthy enough to support a recreational fishery. That will continue to be a primary management goal.
- Fourth, because they readily hit almost any fly or lure, westslope cutthroat offer a unique opportunity for anglers to catch native trout. This voracious feeding behavior—which allows cutthroats to survive and grow in the relatively sterile, clean waters they inhabit—gives even novice anglers and kids a chance to hook a nice trout.
- Fifth, in streams where FWP and our partners remove non-native trout, anglers will not lose recreational opportunity. Our data show that westslope cutthroat will produce as many pounds of fish per unit area of stream as brook trout, and often produce more larger fish. Anglers will probably have to practice catch-and-release in these streams until cutthroat populations build to a level that can sustain a harvest.

The goal of this conservation effort is not to return westslope cutthroat to all waters they once inhabited. This is not feasible for many reasons. However, we want to preserve and where possible expand remaining populations, and restore the westslope to some interconnected habitats throughout the historical range. FWP will lead the way by preparing environmental documentation to show what actions will be needed and the probable consequences of each project, but we will need the help of other agencies, conservation groups, landowners, and interested citizens. We encourage all Montanans to aid us in designing and implementing these projects. What a fitting a tribute it would be to commemorate the upcoming 200-year anniversary (2005) of Lewis and Clark's historic journey through Montana by ensuring that the trout they so vividly first described for science still swim the waters that form the Missouri River.

*If you would like a copy of the "Conservation Agreement and Management Plan for Westslope Cutthroat Trout in Montana," or the draft "Conservation Agreement for Yellowstone Cutthroat Trout," please request it from Ken McDonald, Fisheries Division, FWP, P.O. Box 200701, Helena, Montana 59620-0701, phone 406-444-2449.*

*Stocking a Fishless Headwater*

## MUSKRAT CREEK

RON SPOON

*This man-made barrier in Muskrat Creek will maintain the integrity of an upstream westslope cutthroat population.*

Muskrat Creek, a tributary of the Boulder River, had a remnant westslope cutthroat population in about 1.5 miles of stream between a beaver pond area and a natural fish barrier. In 1993 brook trout outnumbered cutthroats in this stream section 20 to 1, and fewer than 100 cutthroats over 6 inches remained. About 4 miles of suitable fish habitat existed in the stream above the natural barrier, but this section was fishless.

FWP, the BLM's Butte Resource Area, and the Beaverhead-Deerlodge National Forest set out to conserve this westslope cutthroat population, with help from the Montana Conservation Corps and Broadwater County Commissioners, by translocating cutthroats from below the natural barrier to above the barrier. An additional barrier to upstream fish movement was installed about 1.4 miles below the natural barrier; brook trout captured during the effort to move the cutthroats were placed below this lower barrier.

Forty-eight cutthroats were moved above the natural barrier in 1997, and another 99 in 1998. None of these fish were recaptured below the natural barrier in 1998 (all fish were marked), indicating that translocated fish did not move back downstream over the natural barrier. In 1998, following brook trout removal in 1997, twice as many westslope cutthroats, especially young, were captured between the natural and constructed barriers. Some cutthroats were observed near their translocation site a year after they had been moved.

## WHITE'S GULCH

White's Creek, a tributary of the Missouri River near Townsend, was degraded by dredge and placer mining in the late 1800s and early 1900s. This left the stream channel perched in a ditch with the valley bottom filled with dredge piles and old excavated ponds. A flood in 1993 breached several of the ponds, resulting in the stream breaking out of the ditch in several places and severely eroding about a half-mile of channel.

In 1993, with the support of the Helena National Forest, the Montana Department of Natural Resources, the Broadwater Conservation District, Trout Unlimited, and the Broadwater County Stream and Lake Committee, FWP initiated a project to repair the damaged channel, remove brook trout, and improve conditions for an existing westslope cutthroat population.

After constructing a barrier below the rehabilitated valley to prevent reinvasion of the upper stream, fisheries personnel captured brook trout by electrofishing and transported them below the barrier (4,152 brook trout were removed in several efforts from 1993 to 1998). The westslope cutthroat population responded dramatically, more than quadrupling in all monitoring areas. The proportion of fish over 8 inches remained about the same after brook trout were removed (about 17 percent), but the proportion of fish over 10 inches increased—a remarkable development considering the small size of this stream (4 to 6 feet wide). In addition, numbers of young cutthroat increased markedly following the rehabilitation effort. Unfortunately, it appears that enough adult brook trout adults remained in the stream to reproduce, since numbers of young brook trout in the restored section increased in 1998. This suggests that electrofishing may not effectively eliminate brook trout, at least at the level of effort expended.

This project demonstrates that westslope cutthroat can rapidly respond to removal of brook trout and rehabilitation of degraded habitats. Total weight of fish in the stream did not decline because more and bigger westslope cutthroat compensated for the removal of brook trout.

RON SPOON

RON SPOON

*With the help of the Montana Conservation Corps, a local Boy Scout troop, and the Montana Science Institute, a badly eroded section of White's Creek (left) was repaired and stream bank vegetation restored (below). Brook trout (lower left) were relocated to a stretch below a barrier that will prevent their reinvading habitat occupied by westslope cutthroat trout.*

RON SPOON

DALE C. SPARTAS

*Enhancing the Habitat*

## STONE CREEK

A fork of Stone Creek, an upper Beaverhead River tributary supporting only westslope cutthroat trout, had been degraded by poor land management practices. In 1995 a coalition consisting of FWP, Barretts Minerals, the Beaverhead Conservation District, and BLM's Dillon Resource Area began reclaiming habitat in this fork from its mouth upstream about 1.6 miles. Reclamation included moving a road away from the stream; rebuilding the stream channel, banks, and floodplain in several areas; adding pools; and controlling sediment by constructing catch basins and planting vegetation in the riparian area.

Population surveys conducted prior to reclamation showed the 1.6-mile portion of stream supported fewer than 100 westslope cutthroat 3 inches and longer. In 1998, following reclamation, a 0.6-mile section of this fork within the reclaimed area supported about 350 westslope cutthroats over 3 inches. A control section in another fork where no habitat work was done had 16 cutthroats in 1994 and 75 in 1998. The data show a tenfold increase in the treated portion, compared with about a fourfold increase in the control section. In 1998, about 185 cutthroats 3 inches and longer were found in a 1,000-foot-long section of the main creek immediately below the treated fork, indicating cutthroats dispersed to the main creek following rehabilitation in the fork.

*Westslope cutthroats increased tenfold after channel restoration and vegetation work in Stone Creek.*

*Removing Non-native Species*

## CHERRY CREEK

FWP, the U.S. Forest Service, the U.S. Fish and Wildlife Service, and a private landowner recently entered into an agreement to restore westslope cutthroat trout to aproximately 65 miles of Cherry Creek, a tributary of the Madison River. The plan calls for removal of all non-native fish with antimycin and rotenone above a major waterfall, which will prevent reinvasion from lower in the drainage.

Once the treated stream section is fishless (which may take several years), genetically pure westslope cutthroat eggs will be placed in streamside incubators that will allow emerging fry to move into the creek after they hatch. This process will be repeated for at least three consecutive years. Other native fish, including fluvial Arctic grayling and mottled sculpin, may also be introduced in the future. Once completed, this project will greatly increase the probability of westslope cutthroat persisting in the Madison River drainage over the long term.

PAT CLANCEY

*Once cutthroat trout are restored upstream, this major waterfall will block reinvasion by non-native species from below.*

# Welcome Home Montana

by Marcella Sherfy
photos by Jeremy Puckett

*Climb the worn steps of your memory. Sigh into the comfortable stuffed armchair of your past. Come back to places so familiar, so intriguing, or so historically powerful that they have shaped the West—perhaps even shaped your life.*

*Makoshika State Park near Glendive*

Welcome home to 41 magical places in the western landscape—Montana's state parks. Often overshadowed by Glacier and Yellowstone National Parks, sometimes confused with federal camping areas, Montana's state parks comprise a treasure trove of memories, resources, landscapes, and stories to learn or rediscover.

Whether you're a Montana native, an expatriate, or a first-time visitor from anywhere on the globe, Montana's parks can welcome you home. Here you'll find places to make memories, places where your own memories were made, and places where the earth's geological and paleontological memories are still etched in the landscape. Our 41 parks, some as small as a building, others spreading across the vast landscape, offer native and newcomer alike a multitude of places to play, to rest, to study, to remember.

Welcome home to all Montana's visitors from around the world. Visit our historic homes, our prehistoric landscapes, and the many places that have defined the course of the nation's events or intrigued citizens of the world.

Welcome to infinite years of geological change and to the fantastical home of dinosaurs and badlands at Makoshika. This 8,000-acre park at Montana's eastern edge provides trails to let the most citified examine fossils and geologic creatures. Campers can relax. Teens can folf. Folks wanting more information can stop at a visitor center packed with exhibits.

Come explore the quiet splendor of Belt Creek's Sluice Boxes State Park, east and south of Great Falls. If this box canyon, a designated primitive park, doesn't have world-class fame, it doesn't have world-class traffic either. Instead it offers exquisite scenery for fishing and floating, and relative quiet for the contemplative hiker. Sluice Boxes State Park tells a compelling Montana story. Once bustling with railroad commerce, mining activity, and early recreational cabin use during the first half of this century, this corridor now offers the returning glory of a rushing stream and shadowy remnants of the canyon's earlier inhabitants.

Welcome to Rosebud Battlefield, east of Lodge Grass—a place so remote and untouched that you can still walk and think about the colliding world views that defined the United States' Indian Wars. It's quiet enough that you can read reminiscences of soldiers and listen to the tapes of native people remembering the one-day Rosebud battle. Or you can marvel at how one remote eastern Montana location captures so many layers of history of Montana's 12,000 years: buffalo jump, battlefield, homestead, ranch.

Welcome home to the tiny Parker Homestead, close to Three Forks, a reminder of the endurance and optimism of early Montana settlers. This homesite welcomed a family who left the bright lights of Butte to settle in the Jefferson River Valley. Flooded out twice from river bottom sites, they built a high and dry little cabin under cottonwood shade. Their successors raised four children, in a space we'd consider too small for a rumpus room, and remembered every moment with delight.

*Medicine Rocks State Park north of Ekalaka is a place of mystic beauty.*

Welcome to Medicine Rocks State Park, in the far southeast corner of the state, or Lost Creek in the southwest—both offering breathtaking, almost mystic beauty. Those names should be—and aren't—on the tongues of travel agents around the country. These quiet and primitive parks let history, silence, and loveliness work their magic whenever you visit.

Welcome to the Missouri River Headwaters—a place of immeasurable importance to the Lewis and Clark Corps of Discovery. On this lightly developed spot, you can still see a landscape similar to the one that Lewis and Clark and Sacajawea strove so hard to reach. You can swat mosquitoes that trace their lineage back to the hordes of bugs that plagued the Corps. Here you can stop to ponder the human history, the livelihoods, and the complex cultural patterns that flow into and out of these continental headwaters.

We want to extend another special invitation to the many Montanans who have moved away. Welcome home to our expatriate sons and daughters who have left Montana to pursue careers, seek adventure, or earn some cash. Welcome home to our parents who headed south to escape baby-sitting the grandkids, or to find a frost-free January. For them our state parks are touchstones to revisit—a heritage all the more special because it can't be taken for granted.

*Giant Springs State Park in Great Falls*

Giant Springs State Park, where the world's shortest river flows into one of the continent's major

*Pictograph Cave State Park near Billings*

waterways, conjures special remembrances for Montana's expatriates. The Giant Springs fish hatchery, the historic springs, and their beautiful park setting remain landscapes of reassurance. If you grew up in central Montana, the odds are good that your school class got the hatchery tour and clambered over the historic stone walls that protect the springs. Can you, in your memory, smell the dense fish nursery aroma and see a million little wriggling water babies? This was your park, your place.

Think of Salmon Lake, the jewel in the Seeley Swan Valley forest and a favorite Montana pit stop, leg-stretch, or picnic site. For all of us whose families drove the Seeley Swan road, just the availability of that lovely little park made getting to the blue-eyed steer at Clearwater Junction bearable. Salmon Lake is no wilderness, but in a world of bustle it's pure tranquillity. Welcome home for just the same reasons to Beavertail Hill, the oasis off Interstate 90 outside Missoula, that provides unexpected delights of river and trail.

Think of your school field trip to Lewis and Clark Caverns—or your family's rowdy summer Sunday afternoon trip to the shadowy cool cave. Think then about how much fun it would be to return to all the Cavern's whimsical stories now, after all these years.

Our state parks truly offer welcoming, personal Montana memories to our expatriates. They are the security blankets of history to folks who have moved away but never really left Montana. If you are among those who are bound by emotion or origin to Montana, remember that Winnie the Pooh and Tigger are always just finishing a lunch of honey in the quiet of Flathead Lake's Wild Horse Island.

Most important of all, welcome home to those of you who call Montana home. Most of us living here now see ourselves as Montana natives, whether we trace our origin back to time immemorial along the Backbone of the World, to gold rush days, to an adventuresome rancher who fell in love with high and windy grazing lands, or to a decision made 10 years ago to leave the East Coast and call Montana home.

And for all of us natives, Montana state parks really are the storehouse of our state's and this West's memories. Our parks are no different in value or power for society than the grandfather clock or the rocker that you treasure for their ties to your grandparents. Our parks are sanctuaries, favorite play places, fishing spots that are almost holy ground for their bounty, and the sites on which historic people lived and historic events took place.

When was the last time you woke up and looked out over Flathead Lake on a June morning with the weekend stretching ahead of you, or traded phone tag for a fishing trip at Hell Creek, with time to enjoy the badlands of the Missouri River far above Jordan?

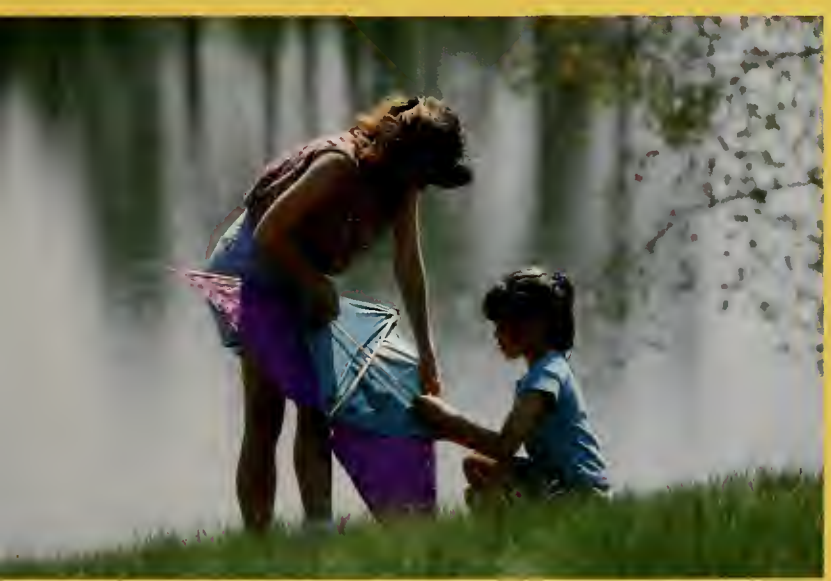
When did you last take a book or a fishing pole, or a kite or a raft, to the park around the corner from your home—or around the county from your ranch? Cooney, Frenchtown Pond, Tongue River Reservoir, Ackley Lake, Lake Elmo, Whitefish Lake—all these places await your visit this weekend, this summer—or this moment.

And have you been to Madison Buffalo Jump, a place whose rock walls and drive lines were used back a thousand years by native people? This dramatic cliff lies in the middle of the Three Forks Valley, one of the busiest prehistoric and historic native trade corridors on this continent.

*Visitors learn about Crow history and culture at Chief Plenty Coups State Park near Pryor.*

We welcome you home to Chief Plenty Coups' two-story log home southeast of Billings, close to Pryor. As a young man, this Crow chief dreamed about keeping peace between Indian and white cultures. So he built a home that showed his willingness to live in both worlds, and gave that home to future generations—you and me—to come and understand the courageous spirit of his people and time. Have you been to that home to learn, to marvel?

Welcome home to Bannack State Park, celebrating the site of Montana Territory's earliest formal government and one of our first gold strikes. A host of Montanans trace their arrival to Bannack—or at least to the impulse of gold seeking. A thousand Montana stories begin in the gold fields, in the heady, rambunctious days of the Early West, and in these stalwart wooden buildings that were home to so many early settlers.



*Frenchtown Pond State Park west of Missoula*

Come back to Fort Owen, a Bitterroot Valley outpost where white settlers and religious missionaries took root in the middle of Salish homeland. Come step into the setting where these cultures conflicted, blended, and influenced each other.

Have you driven up to Elkhorn (off Interstate 15 from Boulder) recently? This tiny, remote town celebrates a mining culture that was sure it would endure. Today, its striking architectural gems stand testimony to that optimism.

Don't forget to come home to Spring Meadow, on Helena's outskirts, in July. You'll be treated to the pure joy of a summer day, the delightful play of a cardboard cup regatta. You'll have time to relax and play with your family in an outdoors setting loved by toddlers and teens alike.

This summer, savor the cool rock walls of Pictograph Cave near Billings, just as prehistoric peoples did in the midst of Yellowstone River Valley heat.

*Kids can swim, fish, or play on the beach at Spring Meadow State Park in Helena.*

Finally this summer, welcome home to our newest, spruced-up park: Ulm Pishkun, just outside of Great Falls. By the time you read this, we will have flung open the doors to a new visitor center and to a whole range of improved visitor opportunities: new outdoor trails, new interpretive signs, an exhibit hall, a classroom, a gift shop, indoor and outdoor spaces for programs, and presentations. You'll find a place treasured by native people long before Europeans arrived. Today, Ulm Pishkun reminds all cultures and many generations how central the buffalo is to life on the North American continent.

At Montana Fish, Wildlife & Parks, we are especially proud of the improvements we've made over the last decade. Montana's state parks date to the late 1930s. But we've worked hard in recent years to manage our parks with a special kind of care and commitment: We devote to them the same elbow grease, practicality, and common sense that you use in your own home.

We manage parks to be clean, welcoming, comfortable, interesting. We don't spend a king's ransom to make them grand or elegant. We aren't trying to keep up with the Joneses. We don't provide every last luxury that a guest might want. We won't hover over you when you come to visit. We are managing to help you feel that hard-to-define but very true feeling of being at home.

Before these summer days disappear, come home to a Montana state park. Grab a fishing pole and a book. Squish through the Caverns' slippery slide with your grandchildren. Pull off the hot, noisy four-lane for an hour of Lewis and Clark reflection at Missouri Headwaters. Treasure the loons in the early morning hours on Thompson Chain of Lakes. Stun your out-of-state visitors with Makoshika's ancient, eroded landscapes.

Please put yourself in a Montana state park for a cool splash in the lake, a nature walk, time with other Montana natives, space to spot wildlife, some rambunctious play at an urban park, long-awaited running room for the kids. Come see us to drink in beautiful scenery, to camp with your family, to paddle a raft, catch a fish, hear a story, enjoy a gourmet meal. Take off your shoes, breathe deep, feel safe, let out the gussets of your heart and soul.

Welcome home, Montana. ■

# *Days of the* LOCUST

by E. Donnall Thomas, Jr.
photos by Dale C. Spartas

*One hundred*—the century mark. It can be a large number or a small one depending on the context. Years ago, when it approximated my lifetime Little League batting average, it was a very small number indeed, which is one reason why I abandoned team sports at an early age in favor of flyrods, bows, and shotguns.

On the other hand, when there are three figures flashing from the digital thermometer on the bank as I drive through my hometown on a summer afternoon, that represents a very large number indeed. When it gets that hot, the dry prairie air feels as if it can scorch your flesh, and no one in their right mind goes out in the sun unless they have to. On days like this, the choice is simple: sulk indoors or gird up your loins and fish hoppers.

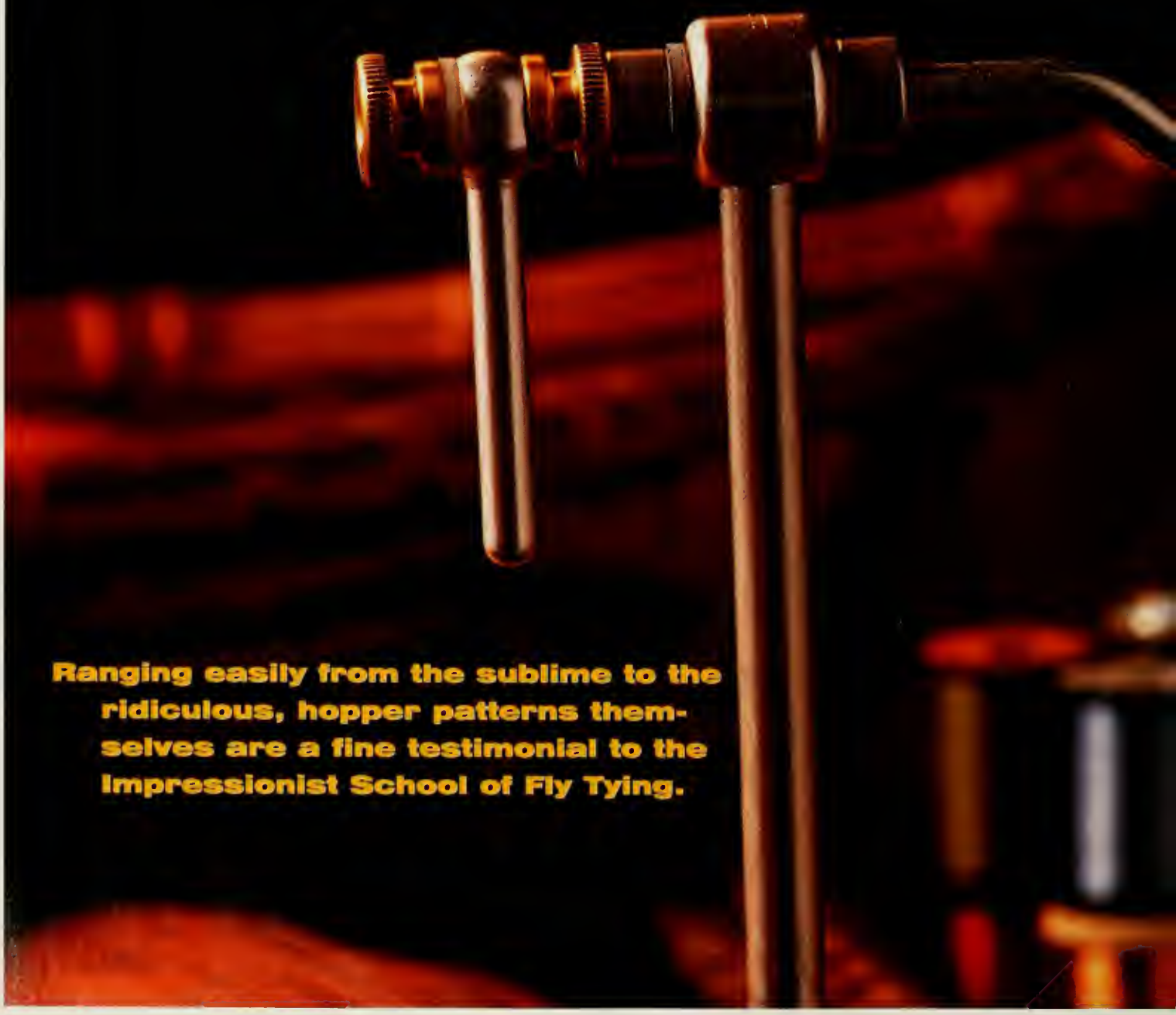
Downstream from town, the air crackles and buzzes in the withering grip of summer as I pull to a stop on a friend's ranch and study the creek. The current is running as low and clear as I have ever seen it. Through my polarized glasses the water assumes a surreal, crystalline quality, almost as if it is not there at all. The details ofthe gravel bottom seem impossibly distinct, and the aquatic vegetation glows like shattered emeralds in the sun. Combines are running through a wheat field above the creek to the southwest, and a hot wind is kicking up from the same direction. It is the addition of the wind that promises to make the afternoon perfect, for reasons we shall soon explore.

Down at the first pool, I wade right in wearing nothing but cut-off jeans and old running shoes. The creek's cool presence teases its way up my legs and finally grabs at my crotch, and for a moment there is nothing to do but gasp in shock and get used to it. Tension eases as my physiology adjusts to its new environment, and suddenly I am more comfortable than I have been all day.

The combination of wind, light tackle, and bulky flies raises obvious technical concerns, but the breeze is at my back for the most part as I work the line out against the opposite bank, and I don't mind a little *splat* when a hopper pattern hits the water anyway. Still, I'm having trouble getting the leader to turn over crisply with all that mass on the end, which is causing drag problems in the complex crosscurrents, and then, what the hell, the fly disappears from the surface in a slurping rise anyway.

In creeks like this one, hot weather always seems to mean hot fish, and this particular 18-inch 'bow turns out to be about all I can handle. At first it jumps high and hard as if the water has somehow become a source of pain that must be escaped. When it finally settles in to the business of running around the pool, each change of direction is marked by a sharp metallic flash down in the current's cool green belly. Then the fish is off downstream, but something happens on the way through the first riffle, leaving me with nothing but a flaccid length of fly line and the rest of the afternoon in which to replace the naked energy the fish took from me when it left.

And what an afternoon it proves to be. Browns. Rainbows. My God. We associate large surface flies in clear water with slashing rises, but not today. Often the fly just disappears, as it did to the first fish. Then the browns start doing their special hopper trick—appearing inches beneath the fly and following it languidly downstream longer than you can imagine possible. Since a good number of these are big browns, the suspense is enough to get me twitching and talking to the fish (Take it! Take it, you @#*!). Over the



**Ranging easily from the sublime to the ridiculous, hopper patterns themselves are a fine testimonial to the Impressionist School of Fly Tying.**

years I've learned that if I actually talk to the fish for more than an hour or so at a time, I really ought to give it up for awhile. Finally one last brown breaks me off and I do just that.

As I reel in the line and climb up the bank and head back toward the truck, I remind myself to watch carefully for snakes now that I am back on dry land, since snakes thrive in this kind of weather every bit as much as hoppers do. I run into a rattler or two down here every year during hopper season. I've spent enough time in snake country to know how badly rattlesnakes want to avoid biting you, but that is a hard notion to keep in mind when you've got one of those thick-as-your-arm prairie dragons coiled up and buzzing next to your foot.

I did have one hit me once. I happened to be wearing heavy waders that day. The snake was small and it bounced right off my boot, which no doubt saved me a whole lot of trouble. I wore waders faithfully for the rest of the season, but then one day it got so hot that I decided I would rather take my chances with the snakes, and I've never gone back. At this time of year the pleasures of wading wet are just too sublime to deny. I figure I've made my peace with the snakes. So far, so good.

Back at the truck, I break down the rod and lay it across the dash. This is not the approved means of transporting a fine flyrod, but I'm back and forth to the creek so much this time of year that I just can't make myself take time to store it properly. This compromise to expediency may cost me someday, just the way going bootless in snake country may cost me, but I've made an executive decision to accept these risks as the cost of doing what I love to do

**Scorching days are what make grasshoppers grow and jump and otherwise behave in ways that make them interesting to fish.**

the way I love to do it.

The creek still looks tempting, but I know when to quit. There are dogs to train, bows to shoot, kids who deserve my attention.

Besides, there is also tomorrow.

*Man has always had* an uneasy relationship with members of the order Orthoptera. To Aesop, the grasshopper provided a symbol of dissipation to contrast with the industrious ant. In Old Testament terms, locusts were a definitive form of divine retribution, God's own equivalent of a stick up alongside the head. Here in Montana farm country, grasshoppers are still about as popular as hail and taxes. But in the age of biopolitical correctness we are supposed to be able to find something to love about even the most unlovable species. In the case of the grasshopper, this is easier if you have a flyrod in your hand.

There are some things you need to know about fishing hoppers, but arcane details of insect taxonomy are not among them. This is a diverse bunch of bugs to be sure, but understanding the factors that get trout cued in to hoppers is far more important than precise imitation of particular species. Knowing that there are big hoppers and little hoppers is really about as far as you need to take it, and I could fish hoppers happily all summer with a single pattern on a #8 hook. The grass may be full of much smaller specimens, but those are usually immature forms that don't do what hoppers have to do to provoke excitement from hungry trout. The fish don't pay much attention to the little guys, so I don't either.

Weather is important. Heat is one major variable, as we have already seen. Hot, dry weather is trophic to grasshoppers the way rain is trophic to inbound steelhead. Scorching days are what make grasshoppers grow and jump and otherwise behave in ways that make them interesting to fish. That and the insects' natural rate of maturation explain why I seldom get serious about fishing hoppers until late July, and regard the dog days of August as prime hopper season.

The other critical weather factors are wind and humidity. In contrast to mays, caddis, and other aquatics, hoppers arrive in trout streams purely by accident. Adept jumpers that they are, they seldom make a significant appearance in streams without a bit of wind drift to scramble their guidance systems. Moisture, on the other hand, tends to suppress hoppers by making them less active and promoting the growth of debilitating fungus on their wings. All of which explains why hot, dry, windy summer days are so dear to the Montana trout-fisher's heart.

For the effectiveness of hopper imitations depends above all else on the presence of naturals in the water. There doesn't have to be a lot of them, but there must be a few, enough for the fish to move up out of the holes and into the shallows against the banks. Bear in mind that this is ordinarily the *least* attractive part of a trout stream to a trout on a bright sunny day. Fish are vulnerable there to all sorts of predators and they know it. In other words, it takes hoppers to coax trout into hopper water.

Of course, fishing that water requires nothing less than a willing suspension of disbelief. *There?* the newcomer to hopper fishing usually begins by asking. *You want me to cast there?* Such skepticism is understandable. Good hopper water is often shallow and unprotected. Although you can usually count the pebbles on the bottom, you almost never see fish unless they are actively feeding, even when they are there. The only real requirements for classic hopper water are that it be wet and close to a grassy bank, and to the uninitiated much of the best of it looks as if it should belong in the *you gotta be kidding* category.

Well, I'm not. It's impossible to present a hopper pattern too closely to the bank. As a matter of fact, bouncing one right off the grass and into the water is a classy little exercise in finesse that is well worth the effort when fishing to sophisticated fish. I prefer to cast across current rather than work the bank ahead of me, because I spook fewer fish that way. Of course, in faster water this approach often requires desperate and furious line mending, especially when casting a bulky fly in windy conditions with the light tippets often needed during typical summer conditions of bright light and low, clear water. The central point is this: You must make yourself fish that water no matter how much it reminds you of casting into a dry martini. Otherwise you're just not hopper fishing.

You can learn a lot about this business by catching yourself a hatful of hoppers, pitching them into some likely looking run, and watching what happens. One of my favorite places to indulge in such pseudoscientific pleasures is from an old irrigation pipe that crosses my home stream just above a long stretch of classic hopper water. One thing I've learned there is that if I can watch a live hopper float all the way down that bank and around the next bend undisturbed, I had better find something else to do because the fish aren't hitting hoppers.

On the positive side, it's worth noting what a tremendous amount of disturbance hoppers create on the water. Let's face it: They are not glad to be there and they act accordingly. Fish often seem to key on the hopper's graceless arrival and frantic attempts to extricate itself from the mess it's gotten itself into, which is why I'm not above slapping an imitation onto the water and giving it a little action once it's there. Such tactics have turned more

than one day around for me.

It's also worth nothing that grasshoppers are lousy swimmers, which should come as no surprise. Their heavy, chitinous exoskeletons are designed to serve them well on land, not at sea. In fact, after an initial period of struggle, hoppers usually sink like stones, which leads to another tactical recommendation: Don't hesitate to fish hopper patterns wet.

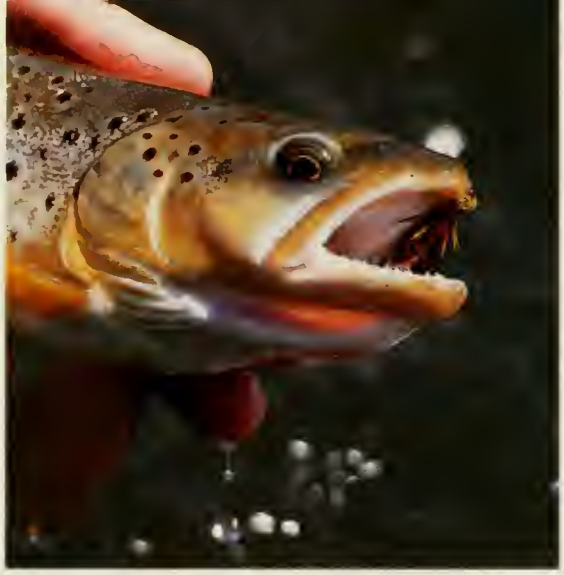
I know, I know. The whole point of this is to catch big fish on dry flies, but you still do what you gotta do. And what I do if I start to get short strikes on dry hopper patterns is to let them drown and keep on fishing. Under typical bright conditions, it's usually an easy matter to follow large hopper patterns visually even underwater, so the aesthetics of the strike don't really change much, except that sometimes they come a lot more frequently.

Ranging easily from the sublime to the ridiculous, hopper patterns themselves are a fine testimonial to the Impressionist School of Fly Tying. Old standbys like Joe's Hopper work. Modern masterpieces of the fly tyer's art that look like science fair projects work. Well-greased Muddler Minnows work. (Muddlers look at least as much like grasshoppers as they do like the sculpins they are supposed to represent, which should tell us something about the literal veracity of the whole business of imitative fly tying.) I've never been able to appreciate much difference among these options, and my daughter Jenny was tying perfectly functional hopper imitations when she was seven years old. After a fish or two, they all look like something you would scrape off your windshield anyway.

The fact is, trout cued in to hoppers are usually ready to hit almost anything that remotely looks like one, and if they don't, the fault usually lies with the presentation rather than the pattern.

Other than going up or down a hook size from time to time I don't think any of this matters much. My personal standard is a bushy, buggy model with a yellow deer hair body, pheasant rump feather legs (sort of), wild turkey quill wings, and a natural deer hair head and overwing on a Tiemco 2302 2X long fine wire hook. I'm only partial to this version because I like the way it floats and I enjoy the fact that I can collect all the materials myself.

Except for the hook.



**Trout cued in to hoppers are usually ready to hit almost anything that remotely looks like one.**

*Of course these attempts* at definition should not disguise the fact that hopper patterns are sometimes a handy solution to fishing's little problems even when there is no compelling reason for them to be.

One fine August day I was on my way back from somewhere when I found myself on the upper Missouri with several hours to kill before heading home. Despite the size and number of fish this water contains, it has never been a personal favorite. For my money, the upper Missouri suffers from all the nose-picky qualities of spring creek fishing without any of the intimacy or charm, an opinion with which others are welcome to disagree, as a great many evidently do.

From my vantage high above the river, I could appreciate an eyeful of typical Montana summer scenery: sagebrush shimmering in the heat, plains turned brown from lack of moisture, the occasional dimple of a feeding fish on the lazy water below, and a scattering of rather worried looking fly fishers distributed up and down the banks of the river. The anglers seemed well appointed and intent, but most weren't even casting, and no one seemed remotely close to catching any fish.

I sat down and ate a sandwich and watched, and during this period of observation concluded that if none of these studious types had figured out what the fish were rising to, I probably wasn't going to either. Finally I assembled my rod and walked down to an unobtrusive spot beside a long, monotonous stretch of water and tied on one of my standard deer-hair-whatever hopper patterns.

The fly hit the water like a wounded bird, but before it floated the length of the rod it disappeared into a slurping rise and I was fast to a typical Missouri rainbow: bright, bullet shaped, hot as a shotgun barrel at the end of an early season dove shoot. The fish roared in and out of the weed beds so many times I thought I would never see it again, but somehow it wound up next to me along the bank where I fought it to a standstill and released it. Remember that I never said anything derogatory about the *fish* in the Missouri.

Actually, I caught several more before I decided to call it a fishing trip and get on down the line toward home. I drew a few stares as I walked up the bank to the truck. Out in the current, fish were still rising sporadically to something and people were still failing to catch them despite painfully serious attempts to do so. No one actually said anything to me as I left. It was probably better that way.

*Everyone knows that all* the really big trout live out here, in Montana, where a river runs through everything and flyfishing is a virtual way of life. Everyone knows that these fish spend most of their time feeding on subsurface pork chop equivalents like giant stonefly nymphs and sculpins. Everyone knows that there are only a few opportunities to take such fish up top, and that those hatches are the stuff of fly-fishing legend. *Pteronarcys californica. Ephemerella grandis. Xanthippus corallipes.*

Whoa there, you say. Run option three by one more time!

All right. I admit that fishing hoppers lacks something of the élan common to those other storied events, but therein lies the charm. Good hopper water can be found in obscure places, and is best fished after the crowds are gone. I can spend a whole weekend in August taking big fish on hoppers and run into fewer people than I'd see in the parking lot at a popular stream access site on Blue Ribbon water during the salmonfly hatch. Often, it's just me and the cows and the snakes and the sun. And the fish, of course. Let's not forget the fish.

Despite their problems, hopper patterns are fun to tie and fun to fish. Factor in high-visibility strikes, teasing follows, and the appeal of big browns acting uncharacteristically gullible, and it's easy to understand the faraway look some of us get out here when the mercury climbs and the wind kicks up and the summer sun beats down relentlessly on the high plains.

It's a different kind of fishing to be sure, without the measured cadence of a mayfly hatch or the subtleties of tiny emergers hung delicately in the film. For those who measure their streamside experiences by such refined standards, the days of the locust may call for some attitude adjustment. Hit it right, though, and you will find a way to adjust.

Believe me. ■

# WEED CONTROL: IT'S TIME FOR A STATEWIDE STRATEGY

The timing of the Governor's Weed Summit during big game season last fall is perhaps proof that the public's growing awareness of the weed issue can now compete with hunting season for the state's attention. My personal level of awareness is a case in point.

Not so long ago, I would have assumed that a Governor's Weed Summit would be a gathering of Montana's garden clubs. More recently, I would have pegged the event as something only for farmers and ranchers who control weeds in their croplands and pastures.

Today, I know that weeds should concern everyone.

This point was driven home most effectively at the weed summit by Randy Westbrooks, a federal pest control coordinator who traveled from Washington, D.C., to work with us in Helena. I had no idea that invasive plant and animal species were being resisted on so many fronts and in so many places across North America. And, I had no idea that these nationwide efforts are the first line of defense against exotic species that would otherwise be on their way to Montana.

From fire ants to kudzu, at seaports and plant nurseries, work continues to identify and eradicate those relatively few exotic species among hundreds that across our borders annually that may become Montana's next knapweed or California's next yellow starthistle.

The stakes are high indeed.

In the millennia before global travel and commerce became a part of everyday life, plant and animal communities evolved slowly, with little or no interchange between Africa and North America, or between South America and Asia. For every successful organism, another evolved to eat it. The result was the proverbial balance of nature, with different species and ecosystems in different places.

Today, these separate ecosystems are being brought together by our highly mobile society. When organisms are introduced into new environments where their specific natural enemies are absent, they are sometimes able to rule their new worlds to the detriment of the species that evolved there. We've all heard this story to explain what makes knapweed so successful and destructive in Montana, compared with in its natural environment in Asia.

Numerous other noxious weed species occur in surrounding states, and will soon become serious problems in Montana without a coordinated and decisive program of early detection and eradication. Just think of the species that hitch rides into this country every day from Central America, Europe, and Asia.

Randy Westbrooks was here to tell us that if we think we're going to be able to rest on our laurels after pulling the knapweed plants beside the mailbox, forget it! If we want to conserve native plant and animal communities in Montana, weed control and vegetation management will have to become part of our everyday lives.

Exotic, invasive weeds are the "strip malls" of the natural world. Some people worry that the proliferation of shopping malls and nationwide chain franchises are turning our quaint and individually unique towns and cities into "Everywhere, USA." Weeds have the same effect on native plant and animal communities. They make Montana's natural landscape look like "Everywhere, USA." And these homogenized plant communities support only a limited and narrow range of wildlife species.

If the work of Randy Westbrooks' federal agency is Montana's first line of defense against new invaders, Montana's own statewide weed control efforts form the critical second line of defense. I'm sorry to admit that many of us have taken those substantial efforts for granted, probably because they have been successful enough for the general public to ignore.

Prevention is the most difficult effort to sustain because no one ever sees the problem unless the prevention effort fails. Only after knapweed or leafy spurge or dalmatian toadflax affects us personally and changes the quality of our lives, or affects our ability to make a living, do we finally rally the troops and provide the funding to sustain the work.

Although Montana's weed control efforts have been successful enough to be ignored by many people, weed distribution continues to expand across the state. Environmental and economic impacts are increasing as well. It is time for a more coordinated statewide strategy for weed control and vegetation management in Montana.

That's what the Governor's Weed Summit was all about. It was a first step toward developing a statewide strategy to fight invasive plant and animal species. It would coordinate the combined efforts of land management agencies, private landowners, recreationists, and the general public toward a shared goal, bringing diverse entities together to work more effectively as a team.

We're all going to be asked to help by changing old habits that contribute to weed spread, and by contributing time and effort to address weed problems. With all of us working together under a common strategic plan, we can be far more effective at dealing with old weed problems and more successful in preventing new ones.—*Mike Thompson, Wildlife Biologist, Region 2 (Missoula)*

## TRADING HANDSHAKES FOR ORANGE PAINT

In 1965, nearly 35 years ago, the Montana legislature passed a law that stated "Every resident and nonresident must have obtained permission of the landowner, lessee, or their agents before hunting big game animals on private property."

In 1999, a new law was passed in Montana that states: "Every resident

and nonresident must have obtained permission of the landowner, the lessee, or their agents before taking or attempting to take nongame wildlife or predatory animals or hunting on private property." What this new law means is that effective July 1, 1999, *all* hunters hunting on private property must have obtained landowner permission, whether they are hunting upland gamebirds, waterfowl, gophers, coyotes, or any other wildlife. Prior to this, only big game hunters were required by law to obtain landowner permission if the private land was not posted.

According to Senator Ken Mesaros, sponsor of SB 171, the intent of the legislation was to improve communications between hunters and landowners. Testimony given during legislative hearings tends to support this idea, since even people who opposed the bill acknowledged that hunters should always ask permission before hunting on private property.

The primary point of contention centered on the difficulty hunters often have in determining who owns the land or where boundaries lie. In an attempt to address this concern, language was included in the bill that requires FWP to work cooperatively with state and federal land management agencies, hunters' organizations, landowners, and other interested persons to ensure that land ownership maps exist that accurately identify property boundaries.

As a first step, FWP hired staff to research what currently exists in the way of land ownership maps. Every county in the state has some such map already in existence. Some are current and up-to-date, some are available only in the form of plat books, and some are outdated. Prior to the 1999 hunting season, the department will publish a guide that lists the maps available for each county and explains how hunters can obtain them.

Many hunters have used these maps for years, simply as another indispensable tool for planning hunts. Even though a map may be outdated, it serves as a starting point for identifying boundaries and researching an area. A phone call or visit to a neighboring landowner, a stop by the courthouse to verify current ownership, or a visit with the rural school bus driver, UPS delivery person, postal worker, FWP warden, or biologist can verify or update information on the map.

Other mapping tools are either currently available or will be soon. Notable among these is general land ownership information available from the Montana Natural Resource Information System (NRIS) that primarily identifies state and federal ownership. While this resource can be used to differentiate between public and private lands, due to possible errors or changes in ownership, specific public land management agencies should be contacted to verify information on the NRIS database. For more information, contact: NRIS, Gerald Daumiller, 1515 E. Sixth Ave., Helena, MT 59620-1800 or e-mail gerry@nris.state.mt.us.

A more comprehensive mapping effort is currently being conducted by the Department of Administration's Information Services Division. Called the Cadastral Database Project, it is a four-year project directed toward developing a statewide land ownership database that can be continually updated using Department of Revenue information. For more information contact: Stewart Kirkpatrick, Project Manager, Montana Department of Administration, P.O. Box 200113, Helena, MT 59620-0113; phone 406-444-9013 or e-mail skirkpatrick@state.mt.us.

Another concern with SB 171 was the fear that hunters might face extreme penalties when inadvertently straying onto private property without permission. In order to address this, language was inserted in the bill specifying that, except for hunting big game animals on private property, a person who violates the new law shall, upon conviction for a first offense, be fined an amount not to exceed $25.

Current penalties for violation of the "hunting without permission" statute specify that a person "...shall be fined not less than $50 or more than $1,000 or imprisoned in the county jail for not more than six months, or both, unless different punishment is expressly provided by law for the violation. In addition, the person, upon conviction of forfeiture of bond or bail, may be subject for forfeiture of that person's license and the privilege to hunt, fish, or trap in this state or use state land...for recreational purposes for a period set by the court."

While the new law won't affect the many hunters who have always asked first before hunting, for others it will require more time and effort in planning a hunt and obtaining necessary permission. But perhaps it will also improve relationships between land-

*Montana's new law requiring all hunters to obtain permission before hunting on private property should improve communications between hunters and landowners.*

owners and hunters, and provide more consistency in the laws governing hunting on private property.

It could ultimately help Montanans trade orange fenceposts for handshakes and conversations.—*Alan Charles, Landowner/Sportsman Coordinator, Helena*

## "Heritage Honkers" Bronze Still Available

The Giant Springs Heritage Park Commission, formed in 1975, is dedicated to the betterment of Giant Springs State Park in Great Falls. Over the past quarter-century the commission has raised money for purchase of land adjacent to Giant Springs and for numerous park improvements, including trees, picnic tables, landscaping, playground equipment, and general maintenance.

Through the years commission members also have spoken on behalf of many projects in and around Giant Springs State Park—for example, interpretive developments at the Black Eagle Falls and Rainbow Falls overlooks; the River's Edge Trail, which runs through Giant Springs; land swaps between FWP and Montana Power Company; FWP's new regional headquarters building; and the U.S. Forest Service's Lewis and Clark Interpretive Center. In addition, the FWP liaison board members keep the commission aware of park needs and projects. The excellent rapport between the private and governmental entities is a bonus for the park.

To grace the front of FWP's new headquarters building in Great Falls when in was constructed in 1986, artist Joe Halko was commissioned to produce a bronze of four Canada geese. He also did 100 miniatures of the sculpture as a Giant Springs Heritage Park Commission fundraiser; this edition quickly sold out.

Because of the continuing popularity of the "Heritage Honkers" bronze, a somewhat smaller version was produced more recently. This bronze, which is on display at FWP's Region 4 headquarters, measures 10-1/4 inches by 8-1/2 inches and sells for $600, part of which is tax deductible. Of a limited edition of 200, only 70 remain. All proceeds from sale of these bronzes return to the park for improvements and future development.

"Heritage is the key word," says Nora Flaherty-Gray, current chairman of the commission. "This state park is the recipient of countless hours of concern and care by local, county, state, and federal groups. How wonderful to be able to share such a treasure with our local and world neighbors today and in the future."

BRUCE AUCHLY

*Sale of "Heritage Honkers" bronzes helps fund improvements at Giant Springs State Park.*

Purchasing a "Heritage Honkers" bronze, says Flaherty-Gray, is an opportunity to invest in the future of this fine state park. For further information, write the Giant Springs Heritage Park Commission, P.O. Box 1093, Great Falls, MT 59403.

# The Warden's Corner

## The Wardens of Fergus County

*by Jim Conner,*
*Region 4 Game Warden (Lewistown)*

*Editor's note—In honor of Lewistown's centennial celebration, Lewistown warden Jim Conner researched the history of wildlife law enforcement in Fergus County. Says Conner: "I thought it would be interesting and educational to trace the history of the officers who have protected the wildlife and fisheries of the Lewistown area. I would like to thank the many FWP employees and others who assisted with the project. Pete Quiring's wife, Mary Ann, was especially helpful.*

On May 6, 1899, Lewistown was officially incorporated as a city. Just over a month later, on June 14, the Fergus County commissioners hired the first game warden for Fergus County, John E. Frye. Thus, the history of wildlife protection in this area is just a little younger than the community that has some of the best hunting and fishing in the state.

Frye had to report to the county commissioners every three months, and was paid the princely sum of $60 per month. He enforced the hunting and fishing rules and seasons already adopted by the legislature. Although these were quite liberal by today's standards, they were a new and exciting change for Montanans. Fergus County at that time stretched from near Geyser to the Musselshell River and from the Missouri River to the south side of the Snowy Mountains.

In 1901 the seventh Montana Legislature passed a law authorizing the hiring of state game wardens, and the office of county game warden was discontinued. The governor hired William F. Scott as the state game warden, who in turn set about hiring deputies to "examine into and inquire about any violation of the game and fish laws of the state."

On May 22, 1901, Scott appointed

John H. Hall of Great Falls the first deputy state game warden for Cascade, Fergus, and Meagher counties. At the beginning there were eight officers statewide; they patrolled warden districts averaging over 18,000 square miles each. Hall's district stretched from near Fort Shaw to the Musselshell River near Mosby, and from the Missouri River south to the Castle Mountains. The wardens would ride the train system from town to town, unload their horses, and set off. Their pay was $100 per month and they paid their own expenses. Newspaper entries indicate Hall traveled through Lewistown about every three months.

Because the conservation movement had its roots in the disappearance of the buffalo and other species, the main concern of these early officers was getting a handle on commercial traffic in wild meat. In their first year the officers had 27 convictions statewide, resulting in $800 in fines. These wardens also began transplanting various species around the state to supplement or start new populations; for example, they helped bring the ring-necked pheasant to central Montana in 1901.

The Lewistown area was patrolled from Great Falls by Hall and later from White Sulphur Springs by W.J. Walsh. Lewistown got its first local warden in 1907 when Sam Cushman was appointed deputy state game warden for Fergus and Meagher counties. In 1909, Cushman was transferred to a new warden district out of Great Falls, and Thomas Berkin was hired to cover the area east of the Judith River in Fergus County. Berkin worked in the Lewistown area until 1917, when he moved to Flatwillow Creek.

In 1915 James Weaver of Lewistown was appointed deputy game warden for the area. About this time the officers started to use automobiles—their own of course—to get around the huge districts they worked. Weaver, born in Oregon in 1868, moved to Lewistown in 1888. He worked as a cowboy, deputy sheriff, and served as the first Lewistown city marshal.

Weaver saw a number of changes during his tenure in Lewistown. In

*J. A. Weaver served for many years as a game warden in Lewistown and as state game warden in Helena from 1936 to 1941.*

1925 the legislature carved Judith Basin and Petroleum counties out of Fergus County. In the 1930s, construction began on a new dam at Fort Peck that would figure prominently in the lives of many Lewistown wardens.

In 1936, Governor Ayers appointed Weaver state game warden in Helena, a position he held until his retirement in 1941. When Weaver left for Helena, he appointed Waldo Vangness as warden in Lewistown. In 1941 Vangness was called away to military duty and three officers worked the area until his return in June 1946. First it was Richard "Slim" Messier for a few months, then Gene Sherman. Sherman was born and raised on a small farm north of Giltedge—the remains of the homestead are still there today. After Sherman left Lewistown in 1943, he served in various warden assignments around the state. He eventually became a warden captain and later a regional supervisor, retiring in 1974. George Hollibaugh was the next officer to work the area. He started here in 1943 and worked until June of 1946 when Waldo Vangness returned from military duty.

During his tenure as warden, Vangness saw the advent of two-way radios in warden vehicles, the transplanting of elk to the C.M. Russell National Wildlife Refuge in 1951 and 1952, and the reintroduction of bighorn sheep to the Missouri Breaks in 1958. He also saw the first paddlefish snagged on the Missouri River in 1959, marking the beginning of an exciting sport fishery in central and eastern Montana.

Pete Quiring replaced Vangness in 1959. Born in Frazier in 1920, Pete joined the Montana Fish and Game Department in 1950. He had assignments in Plentywood and Fort Peck prior to coming to Lewistown. He saw a tremendous evolution in the duties of wardens during his tenure—water safety and snowmobile regulations and a host of administrative changes. Uniforms became mandatory and officers were issued firearms during this period. Pete retired in 1980 and still lives in the area.

In 1978 the department decided Lewistown should have two resident wardens. Ron Gusick transferred from Chinook and worked here until 1984. He joined FWP in 1968 as a warden in Glasgow, and was later stationed in Sidney and Chinook. Ron, who retired in 1989 and now lives in Great Falls, noted the rise in popularity of paddlefishing on the Missouri as a major change in the 1970s and 1980s. Game populations stayed fairly stable during his work in the Lewistown area.

In 1981 Bob Barber transferred to Lewistown from Great Falls. A University of Montana graduate, he started with FWP in 1980 in Great Falls. During his tenure, Bob saw access to the fishery at Fort Peck Reservoir increase tremendously with construction of the all-weather Crooked Creek Road.

I came to Lewistown in 1985 from Polson. I grew up in Illinois and came to the University of Montana in 1971; my first warden assignment with FWP was in Kalispell in 1978. I have also seen the evolution of the department from the name change in 1980 to the computer age and advances in technology.

There have been one county and 13 state game wardens in Lewistown over the past 100 years, and the nuts and bolts of the job have not changed since 1889. The message then, as now, has been to contact landowners, protect the wildlife and fishery resources, and make sure the rules are followed.

# BOOKSHELF

**INHERIT THE HUNT: A JOURNEY INTO THE HEART OF AMERICAN HUNTING, by Jim Posewitz, Falcon Publishing, Inc., P.O. Box 1718, Helena, MT 59624 (1-800-582-2665); 1999, 122 pages, hard cover, $14.95.**

A sequel to *Beyond Fair Chase*, a book with a powerful message on hunting ethics, *Inherit the Hunt* belongs in every hunter's library. It details the history of hunting in North America—how wildlife came to be the property of all people, rather than reserved for royalty as it was in medieval Europe. American colonists rebelled at the notion that fish and game should be the property of a privileged few, and adopted a democratic approach. North American wildlife survived its darkest hour in the late 1800s and early 1900s because common people—led by conservationist-hunters like Theodore Roosevelt—worked arm in arm to preserve it. Had not wildlife belonged to all the people, the most successful chapter in the history of wildlife conservation would never have been written. Today, says Posewitz, our system of free hunting faces a new threat: a growing trend that treats public wildlife as a private resource. "The most ominous threat is carried by those who would create the equivalent of a new royalty of the hunt in North America....To be true to our heritage we must reject the notion of securing advantages in the hunt by denying opportunity to others....the serious perils do not come from those who assail hunting, but from those who try to possess or exploit what belongs to all of us."

**MAJESTIC MULE DEER, edited by Todd R. Berger, Voyageur Press, Inc., P.O. Box 338, Stillwater, MN 55082 (1-800-888-9653); 1999, 160 pages, hard cover, $35 plus $3.95 shipping.**

The latest in the Voyageur Press "Majestic Wildlife" series (*Majestic Elk, Majestic Whitetails*), *Majestic Mule Deer* combines superb photography with stories by some of this century's finest outdoor writers, including Ted Trueblood, Charley Waterman, and Patrick McManus. It also showcases photos by renowned outdoor photographers like Erwin and Peggy Bauer, Denver Bryan, Alan and Sandy Carey, and Michael H. Francis. As editor Todd Berger points out in the introduction, "Majestic mule deer have a power over those inclined to hunt, a power that reaches down from the heavens and grabs ahold of a human being like few other passions can." Taken as a whole, this book provides an engaging portrait of the most popular and admired game animal in the West.

**AMERICAN WINGSHOOTING: A TWENTIETH CENTURY PICTORIAL SAGA, by Ben O. Williams, Willow Creek Press, P.O. Box 147, Minocqua, WI 54548 (1-800-850-WILD); 1998, 160 pages, hard cover, $35 plus $4 shipping.**

Montanan Ben Williams claims to have 14 Brittanys and one English pointer who thinks he's a Brittany—so you know he's an avid bird hunter and dog trainer. But through the pages of this elegant book, you'll discover he's also an excellent photographer and writer. The book covers every facet of American upland bird hunting, from eastern grouse and woodcock covers to southern quail plantations, from desert quail to tundra ptarmigan, and everything in between. Ben Williams has been there, and he has beautiful color photos to prove it. In addition to first-rate photography, the book contains commentary by Charles F. Waterman and valuable information on upland gamebirds, their habits and habitat, and how to hunt them.

**WINDWARD CROSSINGS: A TREASURY OF ORIGINAL WATERFOWLING TALES, edited by Chuck Petrie and illustrated by Brett J. Smith, a Ducks Unlimited book distributed by Willow Creek Press (to order, call 1-800-45-DUCKS); 1998, 144 pages, hard cover, $35.**

An anthology of previously unpublished waterfowl hunting stories, this beautifully illustrated book includes the work of noted outdoor writers like Pete Fromm, Ed Gray, John Hewitt, and Chuck Petrie. The illustrations—watercolors, etchings, and oil paintings by Brett J. Smith—perfectly capture the adventure and mystique of the waterfowler's world. The stories, of course, are about hunting—complete with dogs, ducks, and shotguns—but they're also about people. As Matthew B. Connolly, Jr., Executive Vice President of Ducks Unlimited, says in the foreword: "You'll be lifted to laughter and reduced to melancholy as you explore the worlds of *Windward Crossings'* master storytellers....They're authors with perspective, and they have the words to share the view."

**RATTLESNAKE: PORTRAIT OF A PREDATOR, by Manny Rubio, Smithsonian Institution Press, P.O. Box 960, Herndon, VA 20172-0960 (1-800-782-4612); 1998, 240 pages, hard cover, $39.95 plus $3.50 shipping.**

Through an amalgam of photographs and text, the author does an excellent job of encouraging people to respect these unique snakes and understand their critical role in the ecosystem. The 250 color photos (also by the author) are spectacular, and the book's 14 chapters are packed with information about the rattlesnake's habitat, biology, and feeding habits. *Rattlesnake* traces the evolution and behavior of more than 80 species, from East Coast timber rattlers to desert-dwelling sidewinders, and discusses the snakes' roles in Native American and fundamentalist religions and the commercial uses to which their skins, venom, and meat are put. It includes a strong message of conservation, because many species of rattlesnakes are now endangered.

## STATE PARKS:

# A Home for Plants and Animals

*1st Place*

**SAMANTHA DORNE,**

*Salmon Prairie Elementary School, Swan Lake*

During the past school year, Montana Fish, Wildlife & Parks conducted its eighth annual statewide poster contest for fifth grade students as a means of enhancing the understanding and awareness of Montana's state parks. The theme for this year's contest was "Montana State Parks: Home to Many Plants and Animals." The winning entries, selected by a panel of judges in April, will be on display at FWP regional offices according to the following schedule: Great Falls, 6/28 to 7/16; Kalispell, 7/19 to 8/6; Bozeman, 8/9 to 8/27; Billings, 8/30 to 9/17; and Miles City, 9/20 to 10/4.

Samantha Dorne's first place entry, a creative color pencil drawing that displays a variety of the plants and animals one might see while visiting Bannack State Park, aptly captures the contest theme. She received a $150 savings bond and a T shirt with her poster screened on the front. Her school also received a state parks video and books for its library.

*2nd Place* **KELSEY OLSON** *Lewis and Clark School, Missoula*
Kelsey's beautiful watercolor poster of Salmon Lake State Park provides a vision of nature's beauty and serenity. The wildlife, flowers, and plants so carefully drawn in the picture represent a place where we all feel comfortable and safe...home. She received a $100 savings bond and a T-shirt for her entry.

*3rd Place* **SAMMY COUTURE**
*Lewis and Clark School, Great Falls*
Sammy's poster, with its clever border of flowers, plants, and animal tracks, depicts a majestic state park with flowers in full bloom, birds in the air, and coyotes announcing the arrival of summer. She received a $50 savings bond and T-shirt.

*Honorable Mention* **KYRIE HOANG**
*Smith School, Helena*
Kyrie's eye-pleasing poster incorporates a kaleidoscope of plants and animals that make their homes in Montana's state parks. She received a weekend of free camping for her family in a state park, a video for her school, and a T-shirt.

# NORTH SHORE EASEMENT ADDS TO GIANT SPRINGS

*by Bruce Auchly*
*Information Officer*
*Region 4 (Great Falls)*

The north shore of the Missouri River from Great Falls downstream to the mouth of the Marias River has changed little in the nearly 200 years since Meriwether Lewis walked its banks.

Yes, power lines occasionally mar the horizon. Yes, the towns of Great Falls and Fort Benton exist where grizzlies and buffalo once roamed. Certainly, hydroelectric dams have destroyed the spectacular beauty of the five falls of the Missouri, including the Great Falls now at the base of Ryan Dam.

But the shore hasn't changed. Because of the rough character of the country—the deep coulees, sharp cliffs, and rocky outcroppings—the shore has been used little for grazing and not at all for farming. Agriculture's mark on the north shore stops anywhere from a half-mile to a mile and a half from the river. A visitor today can walk in Lewis' footsteps and see the country in the same shape as that intrepid traveler saw it in 1805.

Now, thanks to a soon-to-be-signed conservation easement between FWP and the Montana Power Company (MPC), 2,784 acres of shoreline will remain in its near-pristine state forever.

"We're preserving that native prairie environment," says Dave Todd, FWP regional parks manager in Great Falls. "But we're also preserving a part of the Lewis and Clark trail. Visitors and area residents can walk the same path that Lewis and Clark walked in discovering the falls and preparing for their portage around the falls."

The conservation easement will prohibit residential development on 2,350 acres of the north shore of the river just outside Great Falls. The easement will also add a dozen miles to the River's Edge Trail. A third part of the deal with MPC, which now owns the land but hopes to sell it later this year, will give FWP ownership of an additional 434 acres, including an important Lewis and Clark landmark. Perhaps the best part of the easement is the cost—it's free.

The idea to give FWP control over development along the north shore goes back to 1992, when MPC was relicensing its dams on the Missouri with the Federal Energy Regulatory Commission (FERC). "MPC agreed to manage the north shore as more of a natural area," says Speed Fitzhugh, formerly of MPC. Fitzhugh is now with the American Public Land Exchange, which is acting as intermediary in the easement.

Fast-forward to December of 1997, when MPC announced the impending sale of its power-generating facilities to Pennsylvania Power and Light (PPL). "We sat down and looked at all the commitments we made through FERC," Fitzhugh says. "This was one of them, and the company said: 'Let's proceed with that one. That way it will be protected.'"

FWP was a natural for MPC to work with on the easement, Fitzhugh says. That's because the Parks Division of FWP currently manages 150 acres of MPC land, mostly overlooks along the south shore, as part of Giant Springs State Park. The land adjoins 280 acres of the state park.

The area covered by the easement starts across the river from Giant Springs State Park and stretches 12 miles downstream to 1.5 miles below Morony Dam. The land will be administered in conjunction with the state park. Though a management plan has not been written yet, the national fascination with Lewis and Clark will play a dominant role in the expanded park.

When Lewis and Clark journeyed up the Missouri in June of 1805, they came to the junction of what we now know as the Marias and Missouri rivers. At the time, though, the expedition was unsure which fork to take. The northern fork ran turbid and deep, its bed made of mud, the way the Missouri had been the entire trip. The south fork ran clear, a bit shallower and swifter, with a smooth surface. Its bottom contained round, flat stones. Which was the Missouri? Everyone in the party except the leaders believed the northern branch to be the Missouri. The captains picked the southern fork. At stake was the success of the expedition.

Lewis wrote on June 3, 1805: "...to mistake the stream at this period of the season, two months of the traveling season having now elapsed, and to ascend such stream to the rocky mountain or perhaps much further before we could inform ourselves whether it did approach the Columbia or not, and then be obliged to return and take the other stream would not only lose us the whole of this season but would probably so dishearten the party that it might defeat the expedition altogether."

On June 13, while exploring along the north shore of the south fork, Lewis discovered the Great Falls, confirming he was on the Missouri. Indians had told the group about the Great Falls of the Missouri. Continuing past the falls on June 14, Lewis eventually came to the Sun River, which pours into the Missouri in the middle of present-day Great Falls. Charged by a grizzly bear, Lewis escaped by running into the river.

An existing gravel road and primitive path on the north shore will help foot and bike visitors retrace Lewis' journey. They will hook up with the River's Edge Trail at Cochrane Dam. Less than 10 years old, the River's Edge Trail is already a popular riverside walk that grows in length and popularity each year.

The easement will nearly double the trail's current 13 miles. It's estimated

BRUCE AUCHLY

*FWP is in the process of negotiating a conservation easement with Montana Power Company that will protect nearly 3,000 acres of Missouri River shoreline from development.*

that 100,000 people use some part of the trail each year, says Doug Wicks, a driving force in the trail's development. "We've done studies in the summer that 800 to 1,000 people use it in a given day," he says, adding that another 12 miles of trail will give people a chance to see the river away from town. "There's a lot of interpretive potential. I think hydroelectric power is important to our local history. And there's no better area than right along the river. People can take their families out after work. They don't have to have a lot of expensive equipment."

An important cog in the easement has been the Conservation Fund, a private organization headquartered in Washington, D.C. The Fund, which is acquiring significant Lewis and Clark sites for public use, raised the money to buy the 434-acre parcel that FWP will own. This site contains a sulphur spring where the expedition camped briefly and Lewis treated an ill Sacagawea.

The party decided to move to the south shore of the Missouri in order to portage around the falls upstream. "[O]ne of the small canoes was left below this rappid in order to pass and repass the river for the purpose of hunting as well as to procure the water of the Sulpher spring, the virtues of which I now resolved to try on the Indian woman," Lewis wrote.

FWP will also take title to a two-story apartment house at Morony Dam that MPC built decades ago for its dam operators. The building and several acres around it will serve as a trailhead to which people can drive. Other uses of the building and land are less certain, but several ideas have surfaced: a hostel for travelers, rooms for FWP interns, a campground, and a satellite center of the U.S. Forest Service's Lewis and Clark Interpretive Center, which sits inside Giant Springs State Park.

A less heralded but equally important question in the transaction is hunter access. The easement gives FWP the right to approach the new owners, PP&L, with a hunter management-access plan, says Jim Williams, FWP wildlife biologist in Great Falls.

"PP&L is under no obligation to allow hunting," Williams says. "This is a charitable gift for open space. In reality, however, they probably will allow hunting. This is not a typical FWP conservation easement. We didn't draw up these terms. But the easement didn't cost us anything, either. We're the stewards of the easement."

If PP&L allows hunting, the easement stipulates it has to be free and open to the public. There can be no outfitting and no game farms on the property. Williams will work out the hunting access plan with the Parks Division. He envisions some form of park-and-walk restriction to maximize hunter safety and minimize disturbance to nearby private landowners.

Brad Benson is a nearby landowner. His family owns the Evans Ranch, which fronts MPC property for about a mile. The easement, Benson says, "should make things a little bit better because they are not going to allow any off-road vehicles."

Off-road vehicles also play heavily on the mind of John Sheffels, another neighboring landowner: "We've had quite a bit of trouble with people coming in with motorcycles and tearing up the countryside." Sheffels said he would be in favor of a park-and-walk program for hunters and hikers.

Kind of like Meriwether Lewis 200 years ago. And that's the point.

# MORE ON "CALL OF THE WILD"

I enjoy reading articles in *Montana Outdoors*. I have been getting your magazine for many years.

The article about trapping, "The Call of the Wild" (November/December 1998) was great. In reference to the view of a New Mexico woman that the outdoors were her life and livelihood, if it wasn't for the good management of Montana Fish, Wildlife & Parks and all the money paid in by hunters, trappers, and fishermen, we would not be able to have this wildlife to view. This management should be left to the experts and not the public. If the antis had their way there would be *no* hunting, fishing, or trapping. She talks about death; all living things are going to die, and I think she should be more concerned about the millions of dogs and cats that are put to death each year in humane shelters. Thank you for your good magazine, and keep up the good work.—*Robert Gates, Arena, Wisconsin*

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Just wanted to congratulate you on an excellent article in the November/December issue dealing with trapping and trappers. It was very well written, and provided some much needed education on an outdoor activity that not only dates back to early history, but is providing many people today with benefits. Trapping helps develop an in-depth understanding of the complexities and interactions of the natural landscape and wildlife, as well as instilling useful life qualities such as self-reliance, perseverance, patience, and reality perspective. As a trapper, you learn the practical aspects of population dynamics, predator-prey relationships, and habitat importance. You also realize that man is a part of the ecosystem, not apart from it, through active participation in the life cycles of the natural world.—*Harold T. Nygren, via e-mail*

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Thanks for the informing and delightful article on trapping. It is a joy to see the spotlight put on this great American tradition. Looking forward to more.—*Corey Huebner, Missoula*

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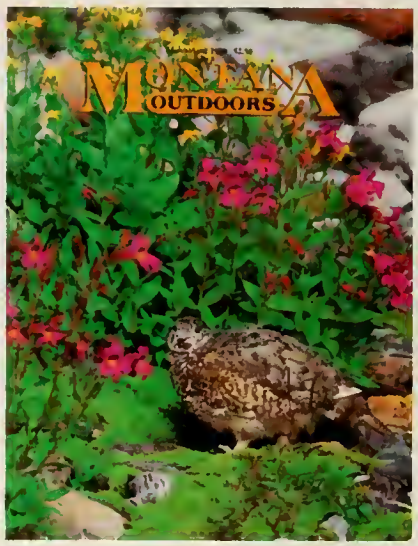
John Fraley writes interesting articles; his "Call of the Wild," describing Montana trappers, was no exception. However, I was disappointed that he disregarded the intense controversy surrounding recreational trapping in Montana. Although Fraley appropriately urged modern trappers to follow "the highest ethical standards," he did not articulate those standards. The fact is, ethical standards are optional for trappers in Montana. For example, there is no limit on the maximum time between trap checks. Trapped animals suffer indeterminately before dying. A 24-hour maximum should be required, with the objective of limiting an animal's suffering. Unpadded leg-hold traps are especially cruel and inhumane.

There are significant differences between hunting and trapping. Hunters can identify an animal before shooting and, if skillful, place a shot so the animal dies quickly. In contrast, lengthy suffering and the trapping of non-target animals are characteristic of Montana's loosely regulated activity. It is legal to place a ground-set trap beside a recreational trail, where dogs (accompanied by their owners, not running wild) are caught and injured or killed. Placement of traps on top of beaver lodges and muskrat houses invites injury or death to eagles and other "accidental" victims. There are many other ethical lapses in Montana trapping.

The often-invoked "frontier ambiance" is not a justification for unnecessarily cruel trapping methods. Montana wildlife are public resources and all citizens have a stake in management. Recreational trapping is a privilege, not a right. Although some trappers act responsibly as a matter of choice, those that do not go unpenalized. If recreational trapping is to persist in Montana, FWP and trappers will need to mandate ethical methods and sportsmanship above convenience and maximizing take. Hunting and fishing advocates figured that out long ago.—*Riley McClelland, West Glacier*



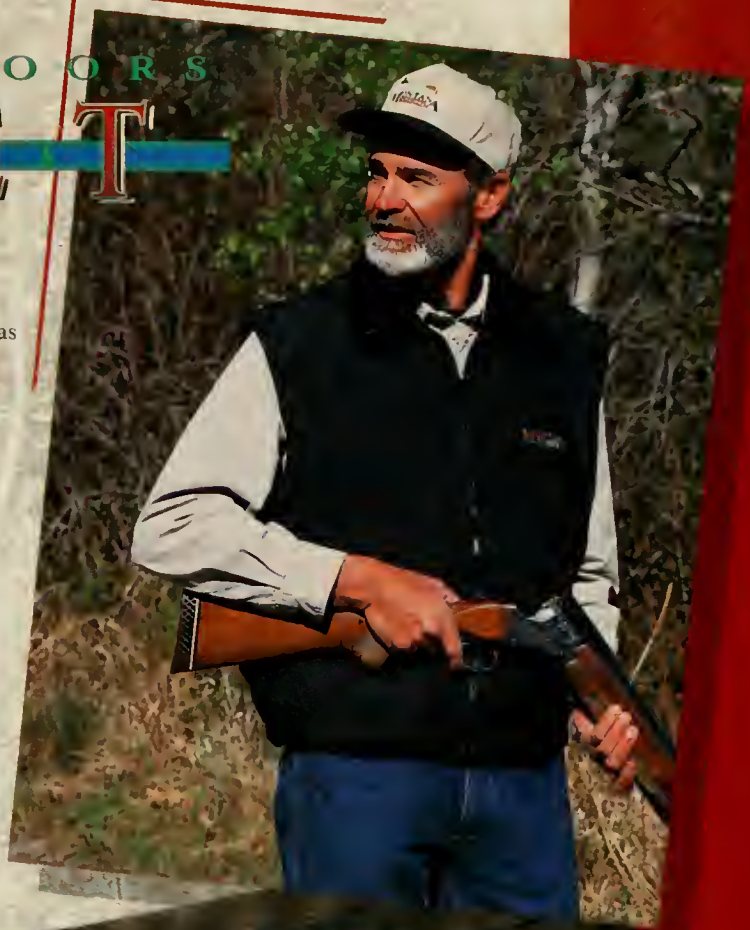

## WHAT ARE THOSE PLANTS?

Love your magazine, however I have a suggestion. On the inside cover of the March/April edition you inform the reader that the bird [on the cover] is a white-tailed ptarmigan. Great, but what are the species of plants in and around the ptarmigan? Expand your pictorial coverage of wildlife species to include the names of the plants. I am not critical of your botanical write-ups, they have been excellent. Again, this is just a suggestion, keep up the good work.—*Al Reuter, Jackson, Wyoming*

*The flower to the left of and above the ptarmigan is purple monkey-flower* (Mimulus lewisii). *The yellow flower at the top is arrow-leaf groundsel* (Senecio triangularis). *The flower at lower right (the barely visible pink blossoms in front of the bird) is willow-herb* (Epilobium spp.). *The bright green plant in front of and to the left of the bird is the moss* Philonotis fontana.—*Editor*

MONTANA OUTDOORS

# MARKET



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*forest green/wine/navy* *wine/forest/navy* *jade/concord/royal*

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*dark green/khaki* *dark caramel/dark green*

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# CONTRIBUTORS

*Restani*

According to **MARCO RESTANI**, **LARRY RAU**, and **DENNIS FLATH**, the burrowing owl, for reasons not completely understood, is declining in many parts of its range throughout the West. They do know that these curious little owls rely heavily on prairie dog burrows for nesting sites, and that prairie dogs in some states, including Montana, have suffered in recent years due to an outbreak of plague. For an overview of burrowing owl biology and how plague may be affecting prairie dog colonies in eastern Montana, turn to "A Prairie Dog Companion" beginning on page 2. Restani is a wildlife researcher at the University of Washington who specializes in birds of prey; Rau is a wildlife biologist with the Bureau of Land Management in Miles City; and Flath is FWP's nongame coordinator in Bozeman.

*Rau*

Sadly, Montana's native westslope cutthroat trout has been on a long-term decline due to habitat alteration, competition from introduced species, and genetic problems. "Brown, rainbow, and brook trout typically outcompete cutthroat trout in waters where they occur together," says **BRAD SHEPARD**, "and rainbow also interbreed with cutthroat." In a multi-faceted effort to protect existing westslope cutthroat populations and restore others, FWP is working with many agencies and organizations to enhance habitat as well as remove non-native species in some cutthroat waters. It would be most fitting, concludes Shepard, if the fish described by Meriwether Lewis in 1805 as "A Very Fine Trout" (p. 8) could be restored to some of its ancestral waters for the upcoming 200-year anniversary of the Lewis and Clark Expedition. Shepard, who is an FWP fisheries biologist headquartered in Bozeman, wishes to thank retired FWP employees George Holton and Joe Huston for their pioneering work on the westslope cutthroat trout in Montana.

*Sherfy*

Whether you're a Montana native, an expatriate, or a first-time visitor from anywhere on the globe, Montana's parks welcome you home. These 41 magical places scattered throughout Montana—some as small as a building, others spreading across the vast landscape—offer a place to rest, to learn, or simply to remember. **MARCELLA SHERFY**, FWP's visitor services bureau chief for the Parks Division in Helena, offers a compelling invitation to these sites in her article, "Welcome Home Montana," beginning on page 14. "Come see us," she says, "to drink in beautiful scenery, to camp with your family, to paddle a raft, catch a fish, hear a story, enjoy a gourmet meal. Take off your shoes, breathe deep, feel safe, let out the gussets of your heart and soul."

Despite its abundance of cold trout waters, Montana can get downright hot in July and August, occasionally even topping 100 degrees. "When it gets that hot," says **E. DONNALL THOMAS, JR.**, "the dry prairie air feels as if it can scorch your flesh, and no one in their right mind goes out in the sun unless they have to. On days like this, the choice is simple; sulk indoors or gird up your loins and fish hoppers." When you immerse yourself to the waist in a cool trout stream, the world suddenly seems a lot more comfortable. Add to that the chance of catching a big brown or rainbow on a dry fly, and your attitude toward the withering "Days of the Locust" (p. 19) may begin to change. "I can spend a whole weekend in August taking big fish on hoppers and run into fewer people than I'd see in the parking lot at a popular stream access site on Blue Ribbon water during the salmonfly hatch," says Thomas, a physician and writer residing in Lewistown. His book, *Dream Fish and Road Trips*, in which "Days of the Locust" first appeared, can be ordered from The Lyons Press, 123 West 18th Street, New York, NY 10011 (phone 800-836-0510, ext. 29).

*MO* thanks the following photographers for their contributions to this issue: **CHUCK HANEY**, Whitefish; **LARRY JAVORSKY**, Hamilton; **DON JONES**, Troy; **RICHARD MOUSEL**, Great Falls; **JEREMY PUCKETT**, Missoula; **DALE C. SPARTAS**, Bozeman; **TOM J. ULRICH**, West Glacier; and **JAN L. WASSINK**, Kalispell. Thanks also to the following employees who work for the department: **BRUCE AUCHLY**, Great Falls; **PAT CLANCEY**, Ennis; and **RON SPOON**, Townsend.